

**REMARKS**

Claims 1, 3, 5-15, 18-26 and 28-29 remain in the present application. Claims 2, 4, 16-17 and 27 have been cancelled from this case. No new matter has been added by the instant amendment.

Claims 1-29 were rejected under the second paragraph of 35 U.S.C. § 112 as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Specifically, the expression "capable of producing a Schulz-Flory of less than about 0.8" in claim 1 was cited as being indefinite since it is allegedly "unclear [that] this capability would function in the claimed process or not." Applicants have amended claim 1 to replace the phrase "capable of producing" with the word "exhibits." The word "constant" was also inserted after the phrase "Schulz-Flory" in claim 1. Support for these amendments to claim 1 is found in paragraph [0031] bridging pages 10-11 in the instant specification. This should clarify the teaching of claim 1.

The Examiner also asserted that it is unclear which organometallic catalysts have the characteristic of having a "Schulz-Flory constant of less than 0.8 as observed for ethylene oligomerization." Claim 1 has been further amended to list specific types of transition-metal based catalysts (see below) originally taught in now cancelled claim 17 hereof. This amendment should clarify the Examiner's understanding.

It is further asserted that the identification of certain catalysts makes claims 17, 21, 24 and 27 indefinite since these terms may be tradenames and the word "type" is unacceptable in patent claims. Claims 17 and 27 have been cancelled from the instant application. Each of the terms at issue have been amended as follows in claim 1:

"Brookhart type" has been replaced with "metal (II)  $\alpha$ -diimine complexes" and has support on pages 12-14 of the instant specification; "NiBBIM" has been replaced with "pseudotetrahedral nickel complexes" and has support in paragraph [0019] on page 8 of the instant specification; and "SHOP catalysts" have been replaced with "neutral nickel (II) complex bearing bidentate monoanionic ligands" and has support in paragraph [0009] on page 4 and paragraph [0061] on page 24 of the instant specification. These amendments should obviate the rejection of the above-referenced claims.

Incidentally, applicants respectfully note that the term "NiBBIM" referenced above is merely an abbreviation for Nickel-bis-benzimidazol, which is disclosed throughout the instant specification.

Claims 21, 22, 24 and 27 were rejected as being indefinite since the catalysts recited in these claims are allegedly not positively selected to use for the claimed process. Claim 27 has been deleted from the current case. As for claims 21, 22 and 24, applicants wish to point out that the catalysts recited therein are merely limitations on the catalysts taught in amended claim 1. Additionally, if applicants' interpretation of this rejection is not correct, then applicants kindly request clarification of this rejection of claims 21, 22 and 24.

The above arguments and cited amendments should obviate the rejection under the second paragraph of 35 U.S.C. §112.

Regarding the other amendments to the claims, claims 2, 4 and 27 were cancelled because their teachings are already recited in claim 1.

Claims 16 and 17 were deleted because the teachings of claim 17 were inserted into claim 1.

Claims 21 and 24 were amended to match the catalyst names identified in amended claim 1.

And claims 3, 5, 18, 19, 21, 22, 24 and 25 were amended to correct claim dependency due to the present amendments.

Claim 26 was amended to correct an erroneous claim dependency to claim 24. Now claim 26 correctly claims dependency from claim 25.

Claims 1-29 were rejected under 35 U.S.C. §103(a) as being obvious over Dunn (U.S. Patent No. 3,558,738). The Examiner avers that Dunn discloses "using an organo-nickel catalyst for catalyzing a mixture of reactants including ethylene and others [sic] 1-olefins such as butene-1 under the applicants' claimed condition of pressure and temperature to produce hexene(s)." Applicants respectfully disagree with this rejection. The present amendments to claim 1 distinguish its teachings from the disclosure in Dunn of olefin dimerization using the cited organo-nickel catalyst. Specifically, Dunn does not disclose "a transition-metal based catalyst selected from the group consisting of chromium trimerization catalysts, metal (II)  $\alpha$ -diimine complexes, pyridine bisimine iron or cobalt complexes, pseudotetrahedral nickel complexes, Ni-thiolene catalysts and neutral nickel (II) complexes bearing bidentate monoanionic ligands." Moreover, one skilled in the art would not arrive at the teachings of the present claims from the disclosure of Dunn based on the amended teachings of claim 1. As such, all claims depending from claim 1 are also not obvious in view of Dunn. For these reasons, the rejection under 35 U.S.C. §103(a) should be properly removed.

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In view of the foregoing comments and amendments, applicants kindly request reconsideration of the application. Applicants believe the case is now in condition for allowance and respectfully request the Examiner to pass the case to issue at an early date.

Respectfully submitted,

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